What is claimed is:

1. An engine coolant composition comprising:

an organic acid component or salt thereof, said organic acid component comprising adipic acid and at least one of benzoic acid and a C_9-C_{12} aliphatic dicarboxylic acid;

an anticorrosion additive including molybdate, and at least one of mercaptobenzothiazole, benzotriazole, tolyltriazole, nitrite, nitrate, and silicate;

a buffer component comprising a sodium salt of at least one of a borate salt or a phosphate salt and

a freezing point depressant.

2. The coolant composition of claim 1 wherein the adipic acid or a salt thereof is included in an amount between about 0.1 wt % and about 5 wt %, measured as the free acid and based on the total weight of the coolant composition.

3. The coolant composition of claim 1 comprising between about 0.5 wt % and about 10 wt % of the organic acid component, measured as the free acid and based upon the total weight of the coolant composition.

4. The coolant composition of claim 1 wherein the benzoic acid or C_9-C_{12} aliphatic dicarboxylic acid is included in an amount between about 0.5 wt % and about 5 wt %, measured as the free acid and based on the total weight of the coolant composition.

5. The coolant composition of claim 1 provided to have a pH level between about 7.5 and about 11 pH units.

6. The coolant composition of claim 1 provided as a liquid concentrate.

7. The coolant composition of claim 1 provided as a ready-to-use-formulation for a internal combustion engine cooling system.

8. The composition of claim 1 comprising:

an organic acid component or salt thereof including adipic acid, benzoic acid and at least one C_9-C_{12} aliphatic dicarboxylic acid;

an anticorrosion additive including molybdate, nitrite, nitrate, silicate and at least one of mercaptobenzothiazole, benzotriazole, or tolyltriazole;

a borate salt; and

a freezing point depressant.

9. The composition of claim 1 comprising:

an organic acid component or salt thereof, said organic acid component consisting of adipic acid, benzoic acid and at least one C_9-C_{12} aliphatic dicarboxylic acid;

an anticorrosion additive including molybdate, nitrite, nitrate, and at least one of mercaptobenzothiazole, benzotriazole, or tolyltriazole;

a phosphate salt; and

a freezing point depressant.

10. The composition of claim 1 comprising:

between about 0.1 wt % and about 0.5 wt % adipic acid,

between about 1.0 wt % and about 2.0 wt % of an aliphatic dicarboxylic acid or a salt thereof, said dicarboxylic acid selected from the group consisting of: sebacic acid, dodecanedioic acid and mixtures thereof,

between about 0 wt % and about 0.5 wt % nitrite salts,

between about 0 wt % and about 0.5 wt % nitrate salts,

between about 0 wt % and about 0.5 wt % molybdate salts,

between about 0 wt % and about 0.5 wt % silicate salts,

between about 0.1 wt % and about 0.5 wt % of at least one of mercaptobenzothiazole, benzotriazole, or tolyltriazole, and

between 0.1 wt % and about 0.5 wt % of at least one of borate salts and phosphate salts; and

between about 80 wt % to about 99 wt % of at least one of ethylene glycol or propylene glycol.

11. A coolant composition comprising, in weight percent:

between about 0.1 wt % and about 0.5 wt % adipic acid,

between about 1.0 wt % and about 2.0 wt % sebacic acid,

between about 0.1 wt % and about 0.5 wt % of at least one of mercaptobenzothiazole, benzotriazole, or tolyltriazole,

between about 80 wt % to about 99 wt % of at least one of ethylene glycol or propylene glycol, and

optionally between about 0.1 wt % and about 0.5 wt % molybdate salts.

12. The composition of claim 11 consisting essentially of, in weight percent:

between about 0.1 wt % and about 0.5 wt % adipic acid,

between about 2.0 wt % and about 3.0 wt % of an aliphatic dicarboxylic acid or a salt thereof, said dicarboxylic acid selected from the group consisting of: sebacic acid dodecanedioic acid, and a mixture thereof,

between about 0.5 wt % and about 2.5 wt % benzoic acid,

between about 0.1 wt % and about 0.5 wt % nitrite salts,

between about 0.1 wt % and about 0.5 wt % nitrate salts,

between about 0.1 wt % and about 0.5 wt % molybdate salts,

between about 0.1 wt % and about 0.5 wt % of at least one of mercaptobenzothiazole, benzotriazole, or tolyltriazole, and

between about 80 wt % to about 99 wt % of at least one of ethylene glycol or propylene glycol.

13. An engine coolant composition comprising:

an organic acid component, said organic acid component comprising adipic acid and at least one of benzoic acid and a C_9-C_{12} aliphatic dicarboxylic acid or salts of these acids;

an anticorrosion additive including molybdate, and at least one of mercaptobenzothiazole, benzotriazole, tolyltriazole, nitrite, nitrate, and silicate;

a buffer component comprising at least one of a borate salt or a phosphate salt; and

hard water.

14. The coolant composition of claim 13 comprising a freezing point depressant.

15. The coolant composition of claim 13 wherein the adipic acid or a salt thereof is included in an amount between about 0.1 wt % and about 5 wt %, measured as the free acid and based on the total weight of the coolant composition.

16. The coolant composition of claim 13 comprising between about 0.5 wt % and about 10 wt % of the organic acid component, measured as the free acid and based upon the total weight of the coolant composition.

17. The coolant composition of claim 13 wherein the benzoic acid or C_9-C_{12} aliphatic dicarboxylic acid or a salt thereof is included in an amount between about 0.5 wt % and about 5 wt %, measured as the free acid and based on the total weight of the coolant composition.

18. The coolant composition of claim 13 provided to have a pH level between about 7.5 and about 11 pH units.

19. A method of reducing the corrosion of metal surfaces in a cooling system having a recirculating liquid coolant comprising hard water, said method comprising:

adding to said liquid coolant, an additive comprising an organic acid component or salt thereof, said acid component comprising a mixture of a C_4-C_6 dicarboxylic acid and at least one of benzoic acid or a C_9-C_{12} aliphatic dicarboxylic acid; and an anti-corrosion additive including molybdate, and at least compound selected from the group consisting of: mercaptobenzothiazole, benzotriazole, tolyltriazole, nitrite, nitrate, and silicate.

20. The method of claim 19 wherein the liquid coolant is maintained at a pH level between about 7.5 and about 11 pH units.

21. The method of claim 19 wherein the C_4-C_6 dicarboxylic acid or salt thereof is added in an amount sufficient to enhance the inhibition of corrosion of aluminum containing components relative to a liquid coolant without the C_4-C_6 dicarboxylic acid or salt thereof.

22. The method of claim 19 wherein the additive comprising a buffer agent selected from the group consisting of: borates, phosphates, benzoates and mixtures thereof.